

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization International Bureau



(43) International Publication Date
7 April 2005 (07.04.2005)

PCT

(10) International Publication Number
WO 2005/030051 A1

(51) International Patent Classification⁷: A61B 5/04,
G01N 19/00

(21) International Application Number:
PCT/FI2004/000532

(22) International Filing Date:
14 September 2004 (14.09.2004)

(25) Filing Language: Finnish

(26) Publication Language: English

(30) Priority Data:
20031394 26 September 2003 (26.09.2003) FI

(71) Applicant (for all designated States except US): ELEKTA NEUROMAG OY [FI/FI]; Elimäenkatu 22, FI-00510 Helsinki (FI).

(72) Inventor; and

(75) Inventor/Applicant (for US only): TAULU, Samu [FI/FI]; c/o Elekta Neuromag Oy, Elimäenkatu 22, FI-00510 Helsinki (FI).

(74) Agent: PAPULA OY; (Fredrikinkatu 61 A), P.O. Box 981, FI-00101 Helsinki (FI).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

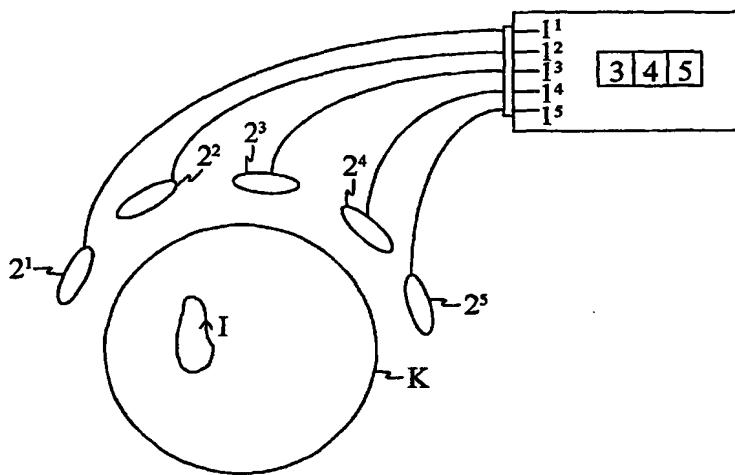
(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— with international search report

[Continued on next page]

(54) Title: METHOD AND DEVICE FOR USING A MULTI-CHANNEL MEASUREMENT SIGNAL IN DETERMINING THE CURRENT DISTRIBUTION OF AN OBJECT



WO 2005/030051 A1

(57) Abstract: The invention relates to a method for interpreting the current distribution of an object being measured using basis vector components calculated from the measured signals. The components in question have been so selected that they describe the features, as independent as possible, of the current distribution being examined, which enhances the computation and makes it more accurate. This is achieved by converting the measured signals into a more natural form from the standpoint of the current distribution while totally eliminating the signals associated with the external interferences. A conversion of this kind has been described e.g. in patent publication F120030392. After the conversion, the source modelling is performed in an optimal manner using the basis vector components of the signal space instead of the actual measurement signals. One substantial feature of the invention is that after the conversion, the source model need not be regularised any more.



For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.